

XXIII

REPORT OF THE DIRECTOR OF THE MUSEUM
FOR THE YEAR 1922

By BARTON WARREN EVERMANN
Director of the Museum

The annual report of the Director for the year 1921 was presented to the Academy at the annual meeting February 15, 1922. The completion of the Grizzly Bear Group soon thereafter utilized the last of the spaces in the Museum suited to large habitat groups. No more groups of that size and character will, therefore, be possible until another hall is provided. There remain, however, a considerable number of spaces for small panel groups upon which the department of exhibits has been largely engaged during much of the year. This department has also prepared a number of portable exhibits suitable for sending out to the public schools. Considerable time has been devoted to the Museum's study series of mammal skins and skulls. Practically all the skins have been tanned and put in proper condition for permanent preservation and rapid progress has been made with the skulls.

PERSONNEL

The personnel of the Museum has had only a few changes since the last report. The employes of the Academy at this date are the following: Dr. Barton Warren Evermann, Director and Executive Curator of the Museum, Editor, and Director of the Steinhart Aquarium; W. W. Sargeant, Secretary of the Board of Trustees; Miss Susie M. Peers, Secretary to the Director; Joseph W. Hobson, Recording Secretary; Miss Alice Eastwood, Curator, and Mrs. Kate E. Phelps, assistant, Department of Botany; Edward P. Van Duzee, Curator, and Dr. F. R. Cole, Curator in Dipterology, Department of Entomology; Dr. John Van Denburgh, Curator, and Joseph R. Slevin, assistant curator, Department of Herpetology; Dr. G. Dallas Hanna, Curator, and Dr. Roy E. Dickerson and F. M. Anderson, honorary curators, and William Barbat, temporary assistant, De-

partment of Invertebrate Paleontology; Joseph Mailliard, Curator, and Miss Mary E. McLellan, assistant curator, Department of Ornithology and Mammalogy; Dr. Walter K. Fisher, Curator, Department of Invertebrate Zoology; Frank Tose, Chief Taxidermist; Edward P. Van Duzee, assistant librarian; Mrs. Helen Van Duzee, library assistant; Wm. C. Lewis, janitor; Fred Maag, carpenter and assistant janitor; George C. Edwards, assistant janitor; Frank W. Yale, assistant janitor; J. N. Kavanaugh, day watch; Mrs. Johanna E. Wilkens, janitress.

ACCESSIONS TO THE MUSEUM AND LIBRARY

Accessions to the Museum and to the Library have been many and valuable. A few of the more notable are mentioned in the President's report and a detailed list will be found in the appendix to this report (pp. 660-662).

CO-OPERATION WITH PUBLIC AND PRIVATE SCHOOLS

The Museum continues co-operation with the schools whenever opportunity offers. The Director and curators have given a number of lectures in various schools and elsewhere in the interest of public education.

Within the year many specimens and small collections of birds or other specimens were loaned to teachers in the schools for use in connection with nature lessons they were giving to their classes, and a number of teachers brought their classes to the Museum to study particular specimens in the research collections.

Visits by schools and classes to the Museum during the year have been as follows:

Schools of San Francisco:

Number of classes	167
Number of teachers	157
Number of pupils	4923

Schools outside of San Francisco:

Number of classes	30
Number of teachers	28
Number of pupils	5572

· VISITORS TO THE MUSEUM

As heretofore in accordance with established policy, the Museum was open to the public every day in the year. The number of visitors by months for each year since the

Museum was first opened to the public is shown in the following table:

Month—	1916	1917	1918	1919	1920	1921	1922
January		23170	25260	17241	27013	25755	19038
February... ..		22058	23698	17586	23450	25679	18534
March		31606	26810	27397	25419	28279	27922
April		32175	23274	25994	32208	24939	36057
May		26154	26391	28369	37107	25517	27237
June		32123	29843	32248	36207	29406	27131
July		37193	31420	48028	52492	43186	36263
August		24619	31137	43730	53470	39422	34787
September ..	16448	27866	29847	34007	42013	31458	28408
October	36933	20629	14743	30463	33500	24861	19459
November ..	27718	21810	8531	25246	19347	18593	19080
December ..	15002	21693	19588	21188	21340	15062	13339
Total...	96101	321096	290542	351497	403566	332157	307255

FIELD WORK OF THE MUSEUM STAFF

Field work was carried on by the Museum within the past year as follows:

EXPEDITION TO THE ISLANDS OFF LOWER CALIFORNIA

The most important expedition sent out by the Academy in 1922 was that to the islands off the west coast of Lower California. This expedition was one of the direct results of the activities of the Committee on Conservation of Marine Life of the Pacific, appointed in 1921 by President Hale of the Pacific Division of the American Association for the Advancement of Science. The expedition was made possible through the co-operation of the Mexican Government and the Committee on Conservation of Marine Life of the Pacific, the California Academy of Sciences, the San Diego Society of Natural History, the Scripps Institution for Biological Research, the National Research Council, and the National Geographic Society. The Government of Mexico generously supplied the vessel and crew, and met all the running expenses, and the National Geographic Society contributed liberally to the fund for meeting other expenses.

The personnel of the expedition was as follows: Representing the Mexican government: Professor Carlos Cuesta

Terron, in charge; Professor José Ma. Gallegos, botanist; Srs. Joaquin Palacios, inspector and Rudolfo Lascano, assistant inspector of lighthouses; Sr. Enrique Gonzales, fisheries inspector, and Sr. Luis Rubio, taxidermist. From the California Academy of Sciences: Dr. G. Dallas Hanna, in charge of investigations; Joseph R. Slevin, herpetologist; and Frank Tose, taxidermist. From the San Diego Museum of Natural History: A. W. Anthony, mammalogist and ornithologist, and Ernest Hinkley, general assistant. From the Scripps Institution: P. S. Barnhart, oceanographer and planktologist.

The expedition sailed from San Diego July 9, on the Mexican fisheries motorboat *Tecate*, Captain Victor Angulo in command. It returned to San Diego August 16. Visits were made to Guadalupe, San Martin, Cedros, San Benitos, Natividad, San Roque, Asuncion, Magdalena, and Santa Margarita islands; and landings on the peninsula of Lower California were made at Ensenada, San Quintin, San Bartholome Bay, and Abreojos Point.

The primary purpose of the expedition was to determine the present abundance and distribution of certain species of marine mammals in those waters and to make collections and study of the fauna and flora of the islands visited. It was particularly desired to learn whether there are any elephant seals, fur seals and sea otters left in the waters about those islands. Each of these three valuable species of marine mammals was at one time very abundant in those waters, but through greed and indiscriminate killing they had been reduced, it was known, to commercial, if not to actual extinction.

It is gratifying to know that the expedition found a very satisfactory remnant of an elephant seal herd large enough, if given proper protection, to enable that species to rehabilitate itself to its former abundance and commercial importance. An excellent moving picture reel was obtained of the elephant seals. No fur seals or sea otters were seen.

The expedition proved very successful and satisfactory. Valuable collections of reptiles, birds, mammals, shells, insects, and plants were made, and much valuable knowledge

regarding the fauna and flora of the islands visited was gained.

Specialists are now preparing the reports on the scientific results of the expedition and it is hoped they will soon be ready for publication.

Reports on other field work carried on by the Museum staff will be found in the reports of the respective curators. Mr. E. P. Van Duzee, curator of entomology, spent several weeks in Utah where he made large and valuable collections of insects. Joseph Mailliard, curator of birds and mammals, continued his study of problems of geographic distribution in northern California. Dr. John Van Denburgh and Joseph R. Slevin spent several weeks (August 23 to September 14) in the high Sierras of California making collections of reptiles and amphibians, but chiefly to secure specimens of the very rare and interesting salamander, *Eurycia platycephala*, of which they were fortunate in obtaining five specimens.

Dr. G. Dallas Hanna, curator of paleontology, spent several days in southern California in investigations regarding the age of the Tertiary formations, which outcrop at Coyote Mountain. The Director of the Museum made a brief trip to the recently discovered cave near Vallecita, Calaveras County, for the purpose of examining the animal remains found therein. He also visited the Farallon Islands to make a search for fur-seal bones that may be found there.

MEETING OF THE PACIFIC DIVISION OF THE AMERICAN
ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
AND ITS AFFILIATED SOCIETIES

The 1922 meeting was held at Salt Lake City, Utah, June 22 to 24, in the buildings of the University of Utah. The meeting was held in conjunction with the Summer Session of the American Association for the Advancement of Science and proved to be one of the most successful meetings the Division has ever had.

The Academy was well represented in the attendance and on the program. Director Evermann delivered the Presidential address on the evening of June 22, his subject being

"The Conservation and Proper Utilization of our Natural Resources," and President Grunsky presented a paper on "The Interstate and International Aspects of the Colorado River Problem."

Among those appearing on the programs or in attendance were the following:

Edward A. Beals, C. E. Grunsky, Jr., Barton Warren Evermann, L. O. Howard, David Starr Jordan, Edgar Lucien Larkin, E. P. Lewis, A. L. Lovett, D. T. MacDougal, James McMurphy, Howard S. Reed, W. W. Sargeant, F. B. Sumner, E. P. Van Duzee, Mrs. E. P. Van Duzee, Bailey Willis.

THE PAN-PACIFIC UNION COMMERCIAL CONFERENCE AT
HONOLULU, OCTOBER 25 TO NOVEMBER 8, 1922

The Director of the Museum was in attendance upon this Conference as the representative of the National Research Council, the National Academy of Sciences, the California Academy of Sciences, and the Pacific Division of the American Association for the Advancement of Science; he was also one of the delegates from the San Francisco Chamber of Commerce.

The Conference proved very important and successful. There were present delegates from nearly all the countries bordering on the Pacific, and many problems of common interest to those countries were discussed. Among those which received much attention was that of the fisheries of the Pacific on which the Director presented a paper, the specific title of which was "The Conservation of the Marine Life of the Pacific." This paper called attention to the former abundance of a number of natural resources of the sea and their almost or complete commercial extinction through greed and improper fishery methods. He showed that these resources can be restored only through an international treaty participated in by all countries bordering on the Pacific.

Following the reading of the paper, the Conference unanimously adopted the following resolutions:

WHEREAS, It is known that many valuable species of marine mammals such as fur seals, sea otters, elephant seals and whales, and many species of important food fishes such as salmon and halibut, formerly occurred in the Pacific in such vast numbers as to constitute the objects of fisheries whose annual products were worth more than one hundred million dollars, and

WHEREAS, Nearly all of those great natural resources have been seriously

depleted, many of them even to commercial extinction, through greed and shortsightedness and ill-considered fishery methods, and

WHEREAS, It is known that small remnants of fur-seal and sea-otter herds and small numbers of whales and of other commercially valuable species still remain in certain places, and

WHEREAS, The rapid recovery of the Alaska fur-seal herd in the short period of ten years from complete commercial ruin to an annual production of more than one million five hundred thousand dollars, as a result of the international fur-seal treaty of 1911, demonstrates conclusively the wonderful recuperative power of such depleted natural resources of the sea under international co-operation, and justifies the belief that other depleted fisheries can be rehabilitated through similar co-operation among the nations concerned, and

WHEREAS, It is conservatively estimated that these resources when rehabilitated will yield to the world a regular annual product of more than one-half billion dollars in value, therefore be it

Resolved, That the Pan-Pacific Commercial Conference strongly recommends that the various countries bordering on, or interested in, the Pacific, take such steps as may be necessary to bring about an international treaty for the restoration of the vanishing resources of the Pacific to their former abundance, that they may be maintained for all time as the objects of great commercial fisheries of which they are easily capable, and be it further

Resolved, That this Commercial Conference recommends that the governments of the countries bordering on the Pacific enter into correspondence for the purpose of establishing an International Commission for the scientific study of the biology, physics and chemistry of the Pacific in the interest of the restoration, proper utilization, and conservation of its vanishing natural resources.

These resolutions have since been endorsed by the California Academy of Sciences, the Chambers of Commerce of San Francisco, Los Angeles and San Diego, the Scripps Institution for Biological Research, the San Diego Society of Natural History, the Commonwealth Club of California, and by other organizations. Copies of the resolutions adopted by these various bodies have been communicated to the Department of State and Commerce through the National Research Council at Washington.

USE OF THE ACADEMY'S LIBRARY AND COLLECTIONS BY INVESTIGATORS AND STUDENTS

Students and investigators continue to make use of the facilities for research and study afforded by the Academy's library and study collections.

The Boy Scouts, under Scout Master Harold E. Hansen, continue to hold their regular weekly meetings in the Academy's auditorium.

PUBLICATIONS BY THE MUSEUM STAFF

The curators and others connected with the Museum staff have continued, as in the past, to contribute to the literature of their respective subjects.

The list of their contributions for 1922 is as follows:

Evermann, Barton Warren

1. Rainbow or Steelhead. <Forest and Stream, Vol. XCII, No. 3, p. 116, March, 1922.
2. Naturalists Will Explore West Coast of Lower California. <Catalina Islander, Vol. IX, No. 28, pp. 1 and 10, July 26, 1922.
3. The Steinhart Aquarium. <Golden Gate Pathfinder, Vol. III, No. 30, pp. 6-7, July 30, 1922.
4. Why Not Save the Marine Mammals of the Pacific? <Bull. Pan-Pacific Union, No. 34, New Series, pp. 12-16, August, 1922.
5. A Scientific Expedition to the Islands Off the West Coast of Lower California. <Sports Afield, Vol. 69, No. 2, pp. 102-103, August, 1922.
6. A Scientific Expedition to the Islands Off the West Coast of Lower California. <Science, New Series, Vol. LVI, No. 1440, pp. 135-137, August 4, 1922.
7. Will Study Marine Mammals. <Pacific Fisherman, Vol. XX, No. 8, p. 16, August, 1922.
8. San Francisco to Have \$300,000 Aquarium. <Catalina Islander, Vol. IX, No. 35, pp. 1-3, September 13, 1922.
9. Texas Fishes. <Southwestern Sportsman, Vol. 1, No. 10, p. 6, October, 1922.
10. The Conservation and Proper Utilization of Our Natural Resources. <The Scientific Monthly, Vol. XV, No. 4, pp. 289-312, October, 1922.
11. The Trout of California. <Forest and Stream, Vol. XCII, No. 12, pp. 541, 558-559, December, 1922.

Hanna, G. Dallas

1. Notes on the Anatomy of *Strobilops labyrinthica* (Say). <The Nautilus, Vol. XXXV, No. 3, p. 91, pl. II, January, 1922.
2. [Review of The Gray Garden Slug, etc., by A. J. Lovell and A. B. Black, Bull. 170, Oregon Agri. Coll., June, 1920.] <The Nautilus, Vol. XXXV, No. 3, p. 97, January, 1922.
3. Frederick Morton Chamberlain. [Reprint of notice published in Science, New Series, Vol. LIV, No. 1397, p. 323, October 7, 1921.] <Indiana University Alumni Quarterly, Vol. IX, No. 1, pp. 94-95, January, 1922.
4. Bird Drives of the Yukon Delta Reservation. <The Condor, Vol. XXIV, No. 3, p. 100, May-June, 1922.
5. With William D. Grant. Characteristic Diatoms of Marine and Fresh Waters. <Report Calif. State Mining Bureau, Vol. XVIII, Monthly Chapter No. 2, pp. 59-76, pls. I-V, 27 figs. in text, distributed March 24, 1922.
6. The 1921 Expedition of the California Academy of Sciences to the Gulf of California. <Science, New Series, Vol. LV, pp. 305-307, March 24, 1922.
7. [Fish-catching Mussels.] <The Nautilus, Vol. XXXV, No. 4, p. 133, April, 1922.
8. [Note on the gift of the Johnston Collection of Shells to the California Academy of Sciences.] <The Nautilus, Vol. XXXV, No. 4, p. 133, April, 1922.
9. Pictures of some of California's Wild Flowers Exhibited. <Golden Gate Pathfinder, Vol. III, No. 14, p. 16, April 2, 1922.
10. Some other Parks. <Golden Gate Pathfinder, Vol. III, No. 17, p. 16, April 23, 1922.

11. [Notes on Diving of Cormorants and Death of Old Squaw and Harlequin Ducks.] Brief notes in Report of E. H. Forbush, Director, Division of Ornithology, Dept. Agri. Com. of Mass. <Bull 8, Dept. Agri. Commonwealth of Mass. pp. 29, 32, 41, 1922.
12. The Aleutian Rosy Finch (*Leucosticte griseonucha*). <The Condor, Vol. XXIV, No. 3, pp. 88-91, 1 text figure, May-June, 1922.
13. [Brief Notes on *Columella alticola* (Ingersoll), in "Land Snails from the Canadian Rockies," by S. S. Berry.] <Bull. 36, Canada Dept. Mines, Victoria Memorial Museum, Biol. series, No. 8, p. 15, May, 1922.
14. San Francisco needs a Zoo. <Golden Gate Pathfinder, Vol. III, No. 18, May 7, 1922.
15. What becomes of the Fur-seals. <Science, New Series, Vol. LV, No. 1428, pp. 505-507, May 12, 1922.
16. The new Robin Group in the California Academy of Sciences. <Golden Gate Pathfinder, Vol. III, No. 20, p. 16, 1 figure, May 21, 1922.
17. Wild Flowers Exhibited at the California Academy of Sciences. <Golden Gate Pathfinder, Vol. III, No. 21, p. 16, May 28, 1922.
18. The Quails of the Park. <Golden Gate Pathfinder, Vol. III, No. 22, p. 16, June 4, 1922.
19. Manzanita, the little Apple of California. <Golden Gate Pathfinder, Vol. III, No. 24, p. 16, June 18, 1922.
20. Relics of Appreciation. <Golden Gate Pathfinder, Vol. III, No. 25, p. 16, 1 figure, June 25, 1922.
21. The Status of *Helix oregonensis* Lea. <The Nautilus, Vol. XXXVI, No.1, pp. 12-13, July, 1922.
22. The Pismo Clam. <Golden Gate Pathfinder, Vol. III, No. 27, pp. 6-7, July 9, 1922.
23. New Exhibition of American Game Animals. <Golden Gate Pathfinder, Vol. III, No. 29, pp. 6-7, July 23, 1922.
24. Fossil Freshwater Mollusks from Oregon. <University of Oregon Publication, Vol. I, No. 12, pp. 1-14, 4 pls. August, 1922.
25. Why not Protect the Fur-seals of the Southern Hemisphere. <Australian Zoologist, Vol. 3, Part 1, pp. 11-14, Sept. 15, 1922.
26. The Reindeer Herds of the Pribilof Islands. <The Scientific Monthly, Vol. XV, No. 2, pp. 181-186, 5 figures, August, 1922.
27. Commission of Scientists returns to San Diego after Investigation of Rare Marine Animals. <San Diego Union, 1 column, 2 figures, Thursday, August 17, 1922.
28. [Report of the] Department of Invertebrate Paleontology, [California Academy of Sciences for 1921.] <Proc. Calif. Acad. Sci., 4th Series, Vol. XI, pp. 636-638, August 21, 1922.
29. Gaudalupe Island. <Golden Gate Pathfinder, Vol. III, No. 34, p. 2, August 27, 1922.
30. The Protection of Wild Life. <Golden Gate Pathfinder, Vol. III, No. 36, pp. 2, 15, September 15, 1922.

31. The Mountain Lion Group, California Academy of Sciences. <Golden Gate Pathfinder, Vol. III, No. 37, pp. 2, 4, September 17, 1922.
32. A Recent Scientific Expedition to the Islands off the West Coast of Lower California. <Golden Gate Pathfinder, Vol. III, No. 38, p. 2, September 24, 1922.
33. A Recent Scientific Expedition to the Islands off the West Coast of Lower California. <The Catalina Islander, Vol. IX, No. 37, pp. 6, 7, September 27, 1922.
34. Sunday Afternoon Lectures at the California Academy of Sciences. <Golden Gate Pathfinder, Vol. III, No. 39, pp. 2, 6, October 1, 1922.
35. Elephant Seals. <Golden Gate Pathfinder, Vol. III, No. 40, p. 2, October 8, 1922.
36. Attu Island Basketry. <Golden Gate Pathfinder, Vol. III, No. 42, p. 2, October 22, 1922.
37. A Recent Scientific Expedition to the Islands off the West Coast of Lower California. <Science, New Series, Vol. LVI, No. 1453, pp. 503-504, November 3, 1922.
38. [The Pan-Pacific Commercial Conference at Honolulu, October 25 to November 8, 1922.] <Science, New Series, Vol. LVI, No. 1453, p. 508, November 3, 1922.
39. Extremely diversified Habitat of a Marine Gastropod. <Ecology, Vol. III, No. 4, p. 347, October, [December], 1922.

Mailliard, Joseph

1. The Fox Sparrows of Golden Gate Park. <Golden Gate Pathfinder, Vol. III, No. 5, p. 16, January 22, 1922.
2. A Pygmy Owl Bathing. <Condor, Vol. XXIV, No. 1, pp. 31-32, January 25, 1922.
3. The Fox Sparrows of Golden Gate Park (*concluded*). <Golden Gate Pathfinder, Vol. III, No. 6, p. 16, January 29, 1922.
4. The Gulls in Golden Gate Park. <Golden Gate Pathfinder, Vol. III, No. 8, pp. 2, 15, February 19, 1922.
5. Acute Sense of Sound Location in Birds. <Science, n. s., Vol. LV, No. 1417, February 24, 1922.
6. The Nuttall Sparrow in Golden Gate Park, and its nearest relatives. <Golden Gate Pathfinder, Vol. III, No. 15, p. 16, April 9, 1922.
7. Notes on Fox Sparrows in California in the Autumn of 1921. <Condor, Vol. XXIV, No. 2, pp. 48-53, April 6, 1922.
8. Sonoma Thrasher in Humboldt County, California. <Condor, Vol. XXIV, No. 2, pp. 62-63, April 6, 1922.
9. New Nesting Records of the American Osprey in Northern California. <Condor, Vol. XXIV, No. 2, p. 67, April 6, 1922.
10. Further Record of the Savannah Sparrow in California. <Condor, Vol. XXIV, No. 3, pp. 95-96, June 10, 1922.
11. Eggs of the Aleutian Rosy Finch. <Condor, Vol. XXIV, No. 3, pp. 92-93, June 10, 1922.
12. Ring-necked Ducks in Golden Gate Park, San Francisco, California. <Condor, Vol. XXIV, No. 3, p. 101, June 10, 1922.

13. On the Status of the Crested Jays (*Cyanocitta stelleri*, subspecies) on the Northwest Coast of California. <Condor, Vol. XXIV, No. 4, pp. 127-133, July 29, 1922.
14. The Vaux Swift. <Golden Gate Pathfinder, Vol. III, No. 33, pp. 2, 13, August 20, 1922.
15. Report of the Department of Mammalogy, California Academy of Sciences, for 1921. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XI, Nos. 20-21, pp. 633-634, August 21, 1922 (in Report of Director for 1921).
16. Report of the Department of Ornithology, California Academy of Sciences, for 1921. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XI, Nos. 20-21, pp. 634-635, August 21, 1922 (in Report of Director for 1921).

Van Denburgh, John

1. The Reptiles of Western North America. Occasional Papers of the California Academy of Sciences, No. 10, November 23, 1922, 2 volumes, pp. 1-1028, pls. 1-128.

Van Duzee, E. P.

1. A New North American Genus of Cydnidæ (Hem.). <Entomological News, Vol. XXXIII, November, 1922, pp. 270-271.

THE NEEDS OF THE MUSEUM

On this subject, I can only repeat and emphasize what I said one year ago. The needs then mentioned still exist and are even more urgent.

The proposed East Wing is perhaps the most important, most pressing need. We simply must have more room if the Museum is to continue to develop and grow in its scientific and educational work as I am sure every member of the Board of Trustees would like to see it grow. And it is earnestly hoped that some way may be found to increase our income so that we may pay more nearly adequate salaries to the scientific staff, and that more funds may be available for library, publications, and for scientific research. The salaries we are able to pay our curators and other employes are pitifully small and must be increased at the first opportunity.

I wish again to express publicly my appreciation of the fine spirit of scientific interest, enthusiasm, co-operation and loyalty with which members of the staff have carried on their work during the year just ending, as in the past. The absence of that spirit would indeed be unfortunate.

DEPARTMENT REPORTS

The various curators and their assistants have continued active in their respective departments. The increases in the collections have been unusually large and important, as will appear from the department reports which follow:

DEPARTMENT OF BOTANY

Inventory of the Herbarium

	SPECIES	SPECIMENS
General collection in cases.....	22,788	107,026
Mosses	1,511	3,826
Hepatics	244	537
Lichens	849	1,541
Algæ (Prager Herbarium).....		614
Fungi "		3,656
Ferns "		985
Cereals " Hohenacker Collection.....		172
Mounted specimens (Kleeberger Herbarium).....		3,293
Unmounted specimens "		1,319
Unmounted Texas specimens (Ferris Collection).....		1,153
" miscellaneous		959
" from Eric Walther		176
" from Antone Blazic		327
Number of species and specimens.....	24,392	125,584

Duplicates Distributed

Twenty-six specimens of ferns and 278 general to the National Herbarium; 230 general to the Gray Herbarium; 180 woody plants to the Arnold Arboretum; 726 general to Ira D. Clokey, Denver, Colorado Museum; 244 general to Philip A. Munz, Pomona College, Claremont, California.

Besides these duplicates there are thousands of other duplicates on hand to be distributed in the future and which are not even counted.

It is ten years since the reestablishment of the Botanical Department and this represents the growth from the nucleus that was saved from the fire to the present. The most important addition was that of the Prager Herbarium which was secured in 1921 through the generous contributions of William H. Crocker, William F. Herrin, William M. Fitzhugh, William C. Van Antwerp, J. D. Grant, A. F. Morrison and John C. Augsburg. In 1922 another valuable collection was added when Mr. George R. Kleeberger donated his herbarium. This is especially valuable to us since it contains a set of specimens collected by Dr. A. Kellogg and W. G. W. Harford in 1868-69, with type duplicates and authenticated specimens of a numbered set. Besides the donor's own rich collections, chiefly in Connecticut and Wisconsin, there is a very valuable collection of mosses and hepatics, a numbered set

of which he purchased from Coe F. Austin who was an authority on those families and who made one of the most complete collections ever made in the Appalachian mountains.

Our collection of mosses and hepatics is now arranged for convenient reference and with the collections in the Kleeberger Herbarium, the cosmopolitan collection of the Prager Herbarium, the valuable donations from the New York Botanical Garden Herbarium, and the collection of Dr. C. Hart Merriam, we have an excellent collection and it will be one of my aims to increase it by interesting everyone in collecting mosses and hepatics. The collection of Californian hepatics is being constantly increased through the enthusiastic efforts of Mrs. E. C. Sutcliffe and Mrs. Marion L. Campbell. They have added 10 species and one genus to the known species of the state, according to the determination of Dr. Alexander W. Evans of Yale University, the authority on this family.

Our collection of lichens has also been put in order and contains a set of the Hasse collection of California lichens, a small Californian collection donated by the collector, Albert W. C. T. Herre, a collection of 21 species and 51 specimens donated by the collector, J. August Kusche, and named by well-known authorities; and the specimens in the Prager Herbarium.

Our collection of Fungi is not yet arranged but contains the Harkness types which were saved from the fire of 1906, some from the National Herbarium, my own collections, and the large collection in the Prager Herbarium.

Eric Walther has been of the greatest assistance in adding to the collection of exotics cultivated in California and in keeping the exhibition of native and exotic flowers on exhibition at the entrance of the museum supplied with specimens. He has now labelled every species in the Golden Gate Park and has made a list on which the location of the labelled specimens is indicated on a map of the park. It is very desirable that this should be published in the near future. The work has been a labor of love by this capable and enthusiastic young gardener. Our collection of the exotics cultivated in California is now unsurpassed. Antone Blazic, another young and enthusiastic gardener, has been spending the past year, during the winter in Southern Florida and during the spring, summer and fall at the Arnold Arboretum near Boston, Mass. He collected assiduously for our herbarium and added 210 specimens from Florida and more than 900 from the Arnold Arboretum, adding many species and even genera to our collection. This, too, was a labor of love. Miss Anna Head collected over 800 specimens in the Feather River region and gave them to our herbarium. We have received in exchange 827 specimens from the New York Botanical Garden Herbarium, 696 specimens from the National Herbarium and 276 Colorado specimens from Ira D. Clokey of Denver. There have been many smaller donations, generally sent for identification and the names of the donors will appear in the general list. There are more than 40 donors.

A fine collection of Texas plants made by Mrs. R. S. Ferris of Stanford University, consisting of over a thousand specimens, was purchased from the collector by the Academy. The Botanical Club donated 120 colored photographs of California native flowers purchased from the artist, Antone J.

Soares, at a cost of \$90. These will be put on exhibition in the museum from time to time.

The small collection made on Guadalupe and Cedros islands, the large collection made by Ivan M. Johnston on the expedition to the Gulf of California, and my own collections have not been included. The curator has had too much herbarium work to attend to for any extended collecting.

There is a great deal of correspondence to be attended to chiefly determining specimens for everyone who sends; the flower show is kept up throughout the year and is one of the most popular features of the museum; the evening class of the gardeners is held weekly and the Botanical Club has weekly meetings or excursions. Many botanical talks have been given to different clubs and thereby the influence of the Academy has been extended along popular lines.

Mrs. Wilkens has looked after keeping the flower show in order and clean and Mrs. G. H. Phelps has been most efficient in mounting the specimens, in putting them into their proper places and in making the inventory. In order to be able to do any real scientific work I need an assistant who knows something about botany so that some of the work can be taken from me.

Alice Eastwood, *Curator*.

DEPARTMENT OF ENTOMOLOGY

The year 1922 was one of steady progress in the Department of Entomology, although this progress was somewhat limited by the fact that for most of the year the curator had to work single handed. So large a proportion of the funds available in 1922 was required for the purchase of new cases, which were absolutely essential to the development of the collection, that little was left with which to employ an assistant. Thus the work of mounting and labeling the large number of specimens added during the summer had to be done entirely by the curator, which left very little time for working up the material secured. However, in spite of this handicap, good progress was made in the determination and arrangement of the material secured by the Gulf of California Expedition of 1921, and in the general collection of insects. Such systematic work as could be done was largely devoted to the study and arrangement of the leaf hoppers and other groups of the Hemiptera. Work on this order is being pushed and it is hoped that another year will see the completion of the determination and arrangement of all Academy material in this order. In the Coleoptera, or beetles, Dr. F. E. Blaisdell has worked tirelessly and efficiently in the study of the Academy material. First, he completed work on the Tenebrionidæ of the Gulf Expedition, which are now in perfect order, and his report on which now awaits publication, and later he has determined many uncertain forms in all families of the beetles which have recently been added to the collection. Dr. F. E. Cole completed his work on the Bombyliidæ of the Gulf Expedition and his report on these bee-flies is ready for publication. He has also done much toward the determination of other dipterous insects in the Academy collection. Material in other orders of insects has been placed in the hands of specialists and work on them is well under way.

The field work of the curator in 1922 was largely done in Utah from June 25 to July 25. The selection of that locality for work enabled him to make arrangements for the meeting of the entomologists, held in connection with the annual meeting of the Pacific Division of the American Association for the Advancement of Science at Salt Lake City, and to secure a very fair representation of the insects of eastern and northern Utah, a region scarcely represented in the Academy's collection of insects. Through this work in Utah 6,000 specimens were added to the Academy collection, a very large proportion being of species unrepresented in the Academy.

Three shorter trips were made during the summer. One to Sacramento and Chico in April, adding 976 specimens; one of five days to Lake County in May, through the kindness of Dr. Hanna, adding 1265 specimens; and one of two days in November, to Giant Forest, adding 171 specimens. The latter trip was undertaken for the purpose of securing a sample of infested wood from a portion of a fallen Big Tree (*Sequoia gigantea*) immediately adjoining the section presented to the Academy by Hon. J. D. Grant and Col. J. R. White. This tree had been struck by lightning 1200 years ago and had then become infested by the larvæ of a flat-headed borer. The covering of this infested wood by the growth of the tree hermetically sealed the work of the beetles and any dead insects remaining in the galleries, it was surmised, would still be in as good condition as when so sealed. The examination of the material brought home justified that prediction and resulted in the finding of two fairly perfect specimens of the beetle which proved to be a green buprestid, *Trachykele opulenta* Fall, and to differ in no way from specimens now living on the same trees in the same forest. This was an exceptional opportunity to compare a beetle now living with a specimen of the same species that had been preserved for 1200 years.

Accessions to the Department of Entomology during 1922 number 21,419 specimens. Of these 8,823 were taken by the curator in his field work and week-end trips about San Francisco. Of the balance, 3780 specimens, collected in Arizona, New Mexico and Texas by Mr. C. D. Duncan and 700 taken at Needles, Calif., by Mr. J. A. Kusche, were purchased. 1138 were taken by Dr. G. D. Hanna and Mr. J. R. Slevin on an expedition, made through the courtesy of the Mexican Government, to Gaudalupe Island and the islands off the western coast of Lower California. Many valuable donations were received during the year, among which may be mentioned the following: From Dr. E. C. Van Dyke, 3036 specimens, mostly from Eastern Oregon, a region scarcely represented in our collection; from C. L. Fox, 1510 specimens, largely from Modoc County, California; from Dr. F. E. Blaisdell, 738, including a good series of spiders from Mt. Herman, Santa Cruz County, California; from Mr. C. T. Dodds, 1700 insects, mostly from Sinaloa, Mexico, and constituting a most valuable addition to our collection of insects from that country; from J. Preston Clark of Boston, 274 insects from Mazatlan, Mexico; from W. C. Van Heurn of Buitenzorg, Java, 384 insects from that vicinity; from L. S. Slevin, 550 specimens from Monterey County, California; from Frank R. Mason of Philadelphia, 145 insects from Africa; from J. O. Martin, 754 specimens, mostly from Lassen County, California; from B. C. Marshall, 150 beetles from Lawrence County, Arkansas; from A. C. Kinsey, 322 oak

galls and the Cynipids bred from them; and from E. R. Leach, 122 moths from Michigan Bluff, California. Other donations to the department collection were received from Virgil Owen and Dr. F. C. Clark of Los Angeles; Dr. F. W. Goding of Guayaquil, Ecuador; M. C. Van Duzee of Buffalo; B. G. Thompson of Sacramento, including topotypes of the very rare *Desmocerus dimorphus*; from Jos. Mailliard and E. O. Essig, including paratypes of some interesting species, and others from Dr. F. C. Clark, Dr. F. E. Blaisdell and Mrs. H. E. Ricksecker, which are still unmounted and will have to be recorded another year. Not only are these gifts unusual in number but they are of exceptional value.

The Academy collection of insects has now reached such a size that the help of a preparator is almost a necessity if any progress is to be made in the classification of the material. During 1923 less will be required for the purchase of new cases and it is hoped that this will supply in part the funds needed for the hire of an assistant. Our collection of insects is much too valuable to be stored in packing boxes. They should be determined and arranged in systematic order and so made available to students who may need to consult western forms, but this taxonomic work cannot be done while the curator is doing the work of a preparator.

EDWARD P. VAN DUZEE, *Curator*.

DEPARTMENT OF EXHIBITS

The beginning of the year 1922 saw the completion of the habitat group of the Imperial Grizzly Bear (*Ursus horribilis imperator*), which was donated to the Academy by Mr. Ogden Mills, of New York. The specimens for this group were secured in the Yellowstone National Park, Wyoming, by Dr. Saxton Pope and Mr. Arthur Young, principally by means of bows and arrows, and presented to the Academy by Dr. Pope. The group was designed and prepared by Mr. C. J. Albrecht, of the University of Washington, and the background was painted by Prof. C. C. Judson, of the University of California.

In June last a handsome present was made to the Academy by Mr. George C. Beckley, of San Francisco, California, consisting of thirteen finely mounted heads of the following animals: One moose, two caribou, three mountain sheep, one mule deer, one mountain goat, two antelope, and three elk.

Material for another sheep group, consisting of five specimens, was secured in Southern California by Mr. Edwin H. Ober, and presented by him to the Academy at the end of the year.

In the spring of 1922 Mr. Frank Tose was employed for small group work, which has been resumed. There is no more room at present for large habitat groups of birds or animals, but between those large groups now installed there yet remain spaces for several small panel groups, three of which have already been put in place by Mr. Tose. One of these is a group of the Bushy-tailed Wood Rat (*Neotoma cinerea occidentalis*), one of the Western Robin (*Plannesticus migratorius propinquus*), and one of the Western Meadowlark (*Sturnella neglecta*).

No large habitat groups can be installed until either a complete new wing is constructed, with halls set apart for this purpose, or until a sadly needed

auditorium is built, which would release for exhibition purposes the room now used as an auditorium.

Several portable loan groups of nesting birds have been prepared for school work, and others are in process of construction.

JOSEPH MAILLIARD, *Curator*.

DEPARTMENT OF HERPETOLOGY

At the beginning of the year 1922 the Academy's collection of reptiles and amphibians numbered 46,506 specimens. There have been added during the year more than 4,500 specimens, so that the collection has grown to 50,914 specimens.

The largest single accession of the year was the William H. Crocker Collection of Oriental Reptiles and Amphibians consisting of more than 3,100 specimens from the Philippine Islands, China and Siam, purchased from Mr. Edward H. Taylor. This collection contains about 335 species and subspecies and about 80 types and paratypes, and will be extremely valuable for study in connection with the Academy's great collections from China, Korea, Formosa, the Loo Choo Islands, and Japan. The acquisition of this collection was made possible by the generosity of Mr. William H. Crocker. Other gentlemen who contributed funds for the purchase of this collection or of glass jars to care for it, are: Mr. Herbert Fleishhacker, Mr. William F. Herrin, Mr. Louis F. Monteagle, Mr. C. O. G. Miller, Mr. Selah Chamberlain, and Mr. George Uhl.

During the year the assistant curator, Mr. J. R. Slevin, carried on explorations along the western coast of Lower California, where he secured 923 specimens from Cedros, Natividad, San Martin, San Roque, Ascuncion, Santa Margarita, and Magdalena islands and various localities on the peninsula.

Late in August the curator and assistant curator visited the Yosemite National Park for the purpose of securing certain species found in the high Sierras. This expedition resulted in 418 specimens including five of the Mt. Lyell Salamander which had been found only once before, and other species not previously represented in the Academy's collections.

The number of specimens added to the collection during the past six years has been about as follows: in 1917, 1,600 specimens; in 1918, 1,724; in 1919, 2,666; in 1920, 1,466; 1921, 5,002; and in 1922, 4,934.

Gifts of specimens during the year have been received as follows: From Mr. William H. Crocker and Mr. Herbert Fleishhacker, 3,135 specimens; Dr. J. Van Denburgh, 12; C. L. Fox, 2; Richard P. Erwin, 55; Prof. V. M. Tanner, 9; F. Maag, 1; Mrs. J. E. Wilkens, 1; Mr. Frank Tose, 1; L. A. Peterson, 1; Marcus Hanna, 1; Don P. Johnston, 1; E. P. Van Duzee, 1; W. Sargeant, Jr., 1; Mrs. E. C. Sutcliffe, 1; L. M. Klauber, 1.

Two specimens of the rare Chinese Alligator have been received, by exchange, from Harvard University.

Specimens have been secured from 18 counties of California as follows: Alameda, 1; Del Norte, 7; Fresno, 1; Humboldt, 2; Kern, 1; Lake, 1; Madera, 21; Marin, 3; Mariposa, 130; Merced, 1; Modoc, 1; Placer, 1; San

Benito, 6; San Luis Obispo, 1; Santa Clara, 41; San Diego, 2; San Francisco, 2; San Mateo, 15; Tuolumne, 269.

Specimens from other localities are: Arizona, 5; Florida, 7; Idaho, 55; Illinois, 1; Louisiana, 1; New Mexico, 1; New York, 3; North Carolina, 1; Oregon, 5; Texas, 2; Utah, 9; Washington, 62; Europe, 25; Asia, 25; Africa, 102; South America, 1; Mexico, 944; Porto Rico, 1; New Zealand, 1; Austral Islands, 9; Tuamotu Islands, 16; Society Islands, 3; Christmas Island, 8; Marshall Islands, 4; East Indies, 6; Sumatra, 1; Indian Ocean, 2; Australia, 2; Philippine Islands, China and Siam, 3135.

The classification, labeling, cataloging, and arrangement of the collection was continued during the year.

A descriptive account of all the reptiles of Western North America has been published.

Specimens have been studied by A. I. Ortenburger of the American Museum of Natural History, Dr. E. R. Dunn of Smith College, Dr. F. N. Blanchard of the University of Michigan, and Dr. Tracy I. Storer of the University of California.

JOHN VAN DENBURGH, *Curator*.

DEPARTMENT OF INVERTEBRATE PALEONTOLOGY

The activities connected with the Department of Invertebrate Paleontology during the calendar year 1922, centered chiefly in five major exploration projects which are mentioned below in chronological order.

On January 1, Mr. Frank M. Anderson, for many years curator of the department and lately honorary curator, was in Colombia, South America, continuing his studies of geology and paleontology which were begun there in 1914. He returned to the United States in June and the large collection he made arrived soon afterwards. This was deposited in the Academy where the collector has been engaged for some time in properly arranging and classifying it. The acquisition of this material makes the Academy by far the foremost museum depository of Colombian paleontology.

In April, the curator again visited the region of Coyote Mountain, Imperial County, California, for the purpose of checking certain geological observations before the final completion of the report upon that locality. The collections from there which have been borrowed from the University of California and the United States National Museum were all returned early in the year.

In May, the curator, accompanied by Mr. Edward P. Van Duzee of the Department of Entomology, paid a short visit to the region about Clear Lake, Lake County, California. The primary purpose of the trip was the collecting of fossils found in that vicinity as well as the ascertaining of the status of the unique freshwater molluscan fauna of Clear Lake. Both undertakings were successful. It was learned that the remarkable species of shells of the lake have become almost, if not entirely, extinct, due to the activities, residents said, of the German carp which have been introduced there.

On July 16, the curator left San Diego as a member of the expedition which was sent to Guadalupe and other islands off the west coast of Lower

California. Very large collections of living and fossil invertebrates were collected during the four weeks the party was in the field.

In the latter part of November, the curator and Mr. Frank M. Anderson visited the Type Section of the Tejon Group at the southern end of the San Joaquin Valley for the purpose of obtaining additional collections from this famous fossil deposit and also to work out the stratigraphy of the region. A report is in preparation on the geology and paleontology on this Eocene formation because it forms the basis to which all of the studies of the older Tertiary of California must be referred.

Satisfactory progress was made during the year in several lines of research. One of the most important of these was in connection with the unpacking, sorting, identifying and labeling of the enormous collection obtained in the Gulf of California in 1921 by the expedition from the Academy. A conservative estimate of this collection is 200,000 specimens; thus far sufficient time has not been available to make an accurate count. Over 300 species of living marine mollusks have been identified through the aid of Dr. Fred Baker, who collected the material. The collection was so large that special methods of handling the great numbers of duplicates from many localities had to be devised. At the end of the year all of the larger species had been sorted, labeled and arranged systematically.

The land shells of the 1921 Gulf Expedition were likewise assorted and the collection was partially identified by the curator.

The shortage of funds made it impossible to obtain any but a negligible amount of assistance for the laboratory routine. As a consequence the cataloging of the collections in hand fell far behind the new accessions.

Students and investigators continued to find the rich collections of the department of great value in their work. Members of the faculties of both neighboring universities have borrowed material in certain groups from time to time and there is every assurance that the co-operation thus maintained has been of material benefit to all three institutions.

The special training of the curator in microscopical paleontology enabled him to assist in the making of plans and the selecting of equipment for use in such work which has recently been undertaken in Stanford University. And, upon the request of Professor Bruce L. Clark of the University of California, two students from that institution were permitted to pursue their studies in this subject at the Academy under the direct instruction of the curator. A widespread interest in microscopical paleontology has recently developed through its economic application in the petroleum and related industries.

At the end of the year the following were the outstanding loans from the department:

Dr. Fred Baker, Point Loma, California, living mollusks from the Gulf of California; Dr. Bruce L. Clark, University of California, Eocene and Oligocene fossils; and for his students: Merle Israelsky, living and fossil echinoderms; R. N. Nelson, Martinez fossils; Mr. Marcus A. Hanna, University of Washington, Eocene fossils; Dr. David Starr Jordan, Stanford University, Miocene teeth of sharks; Miss Mary J. Rathbun, U. S. National Museum,

fossil crustaceans; Mr. Waldo Schmitt, U. S. National Museum, living crustaceans; Dr. T. Wayland Vaughan, U. S. Geological Survey, fossil mollusks from Mexico.
G. DALLAS HANNA, *Curator.*

LIBRARY

Accessions to the library during 1922 number 903 complete volumes besides pamphlets and single numbers of serials. Of these complete volumes 189 were secured by purchase, 301 through exchange for the Academy publications, and 423 by gift. These figures are a little smaller than for the preceding year. A little less money was available for the purchase of books and there was no such large single gift as in 1921. The largest single donation received during the year was the J. N. Webster collection of 369 volumes received through the generosity of Mr. George Sturtevant.

Mrs. Helen Van Duzee has done the entire library work throughout the year besides helping with the care of the Academy publications and in other lines of effort. The portion of her time left for library work, after the care of current accessions, was insufficient to make any large advance toward completing the accessioning and cataloging of the miscellaneous material stored in the lower stack room. Publications on agriculture were, however, arranged and catalogued and a good start made on the subjects of education and engineering. A total of 491 volumes were accessioned during the year, which represents the growth of the library, excepting the Webster collection, which was received too late in December to admit of accessioning before the end of the month. All other additions to the library were fully catalogued and much was done to add to the efficiency of the library equipment, especially in the way of rendering more accessible the resources of the library.

Broadly speaking, the library work has been kept thoroughly up to date although, with the limited time available, but little could be done toward working up the miscellaneous material stored in the lower stack room. The use of the books has been satisfactory, showing an appreciation of the improved accessibility of the resources of this department of the Academy's activities.

EDWARD P. VAN DUZEE, *Assistant Librarian.*

DEPARTMENT OF MAMMALOLOGY

As heretofore this department has been conducted conjointly with the Department of Ornithology, and field work was carried on as opportunity offered in that connection. The matter of greatest interest resulting from the field work in this department in the past year was the taking of a Mazama Red-backed Mouse (*Evotomys mazama*) at Quincy, Plumas County, California, which appears to be the first specimen of this genus actually recorded from the interior of this state, south of Mt. Shasta. Others may have been taken, but, apparently, not recorded in any publication.

The number of specimens of various classes in this department, as entered upon the accession register, is 4,387, including the following additions for the year: On hand, but not before recorded: 26. *By exploration*: 283. *By Gift*: Mr. Otto Anderson, 4; Mrs. Vilinda Blakely, 1; California Fish and Game

Commission, 5; Mr. G. W. Edwards, 1; Mr. E. R. Leach, 2; Mr. J. W. Mailliard, Jr., 1; Rev. W. S. Matthew, 1; Mr. John McLaren (Golden Gate Park), 6; Mr. W. L. Morris, 2; Mr. Paul O'Brien, 1; Mr. E. H. Ober, 5; Miss Susie Peers, 1; Dr. Emmet Rixford, 1; Mr. Rosenblatt, 9; Mr. Frank Tose, 2; Mrs. J. Wilkens, 1. *By Purchase*: 108.

JOSEPH MAILLIARD, *Curator*.

DEPARTMENT OF ORNITHOLOGY

Throughout the year 1922 work in this department has been carried on without interruption. For the first three months of the year the department had the benefit of the services of both Miss M. E. McLellan and Mr. Chase Littlejohn, after which time Miss McLellan was the only assistant regularly employed. Other than routine work, the mounting, cataloging, and card-indexing of the egg collection has been the main occupation of the office force during the year. Considerable work has also been accomplished in the field.

The curator, with Mr. Herbert Barth as an enthusiastic but inexperienced assistant, made a field trip to Siskiyou County, California, to continue the work commenced there by an Academy party in 1920 (*vide* Mailliard, Proc. Calif. Acad. Sci., 4th Ser., Vol. XI, No. 5, pp. 73-94). The expedition of 1922 was equipped with an automobile and a full camping outfit, which enabled it to reach and examine places in this region that had been inaccessible upon the previous visit. The party was in the field from May 12 to June 26, making observations and collecting specimens in several sections of Siskiyou County. The search for possibly existing breeding grounds of the genus *Passerella*—fox sparrows—in the mountain ranges west of Shasta and Scott valleys was one of the principal objects of the spring field work, and the discovery of this genus nesting in several places from which it has never before been recorded was ample recompense for the time and trouble spent in accomplishing this result.

During the ten days passed in Yreka and vicinity, a good list of the breeding birds of the locality was obtained, and a reasonable number of specimens were secured. The Salmon and Forest Mountain ranges, as well as Gazelle Mountain, were visited, and valuable data procured.

A field party, consisting of the curator and an untrained assistant, Mr. W. B. Smith, with car and camp equipment as before, carried on some work in Plumas and Yuba counties for a month in the autumn. The principal object of this trip was to study the movements of fox sparrows among the foothills along the western side of the Sacramento Valley, where little or no work of this sort had ever been done. Enough notes and specimens were secured to add considerably to our stock of knowledge of these birds.

Use has been made of the Academy material and facilities by various persons, but not nearly to so great an extent as is desired.

A loan collection of bird skins has been arranged for the use of the public school teachers, and there is a constant demand for various of its units for educational purposes. Loans of material for study and comparison have also been requested from time to time by different persons living at a distance from San Francisco.

Accessions to the Department of Ornithology during the year 1922 have been as follows: Bird skins—*By exploration*: 504 specimens. *By gift*: Mr. W. Adams, 19; Mr. Ralph Borden, 19; Miss I. N. Clifford, 1; Mr. Ben. Foster, 1; Mr. John Hanson, 1; Mr. F. C. Holman, 1; Mr. C. H. Leong, 43; Mrs. J. A. Leonard, 1; Mr. John McLaren (Golden Gate Park), 7; Mr. V. J. A. Rey, 1; Mr. Rosenblatt, 2; Mr. Alvin Seale, 1; Mr. Frank Tose, 2; Dr. John Van Denburgh, 2; Dr. Otto Westerfeld, 1. *By purchase*: 63 specimens. The total number of specimens on hand at the end of the year 1922, as recorded, is 39,338.

A number of nests and sets of birds' eggs have been received, by exploration and by gift, from the following: Alaska Packers' Association, Messrs. A. Christoffersen, F. C. Clark, Joseph Cotton, Jacob Gorius, M. A. Hanna, E. C. Johnston, W. C. Lewis, Paul O'Brien, M. Schweitzer, Dr. John Van Denburgh, and Mrs. J. Wilkens.

JOSEPH MAILLIARD, *Curator*.

ACCESSIONS TO MUSEUM AND LIBRARY

Adams, Mr. Wallace, San Francisco: Nineteen bird skins from Mexico. Gift.
Alaska Packers' Association, San Francisco: Five sets of eggs from Alaska. Gift.

Allen, Mr. Lewis, San Francisco: Twenty-seven photographs of plants, chiefly California trees and shrubs. Gift.

American Museum of Natural History, New York: Two salamanders from China; one lizard from Porto Rico; two lizards from Arizona; one frog from Louisiana; one lizard from Utah; four lizards from Mexico; nine lizards from Austral Islands; eight lizards from Christmas Island; 16 lizards from Taumotu Islands; three lizards from Society Islands; one lizard from New Mexico; 70 bird skins. Exchange.

Anderson, Mr. F. M., Berkeley: One hundred and ten specimens, representing 26 species of marine fossils from Lower Miocene deposits in Kern County. Gift.

Anderson, Mr. Otto, San Francisco: Four sets of antlers of *Capreolus capreolus*. Gift.

Anthony, Mr. A. W., San Diego: Sixteen specimens of land shells from South Coronado Island, Lower California. Gift.

Arnold, Mrs. A. R., Tracy: Seven California plants for identification. Gift.

Augsbury, Mrs. J. C., San Francisco: Fifteen botanical specimens from the Yosemite for identification. Gift.

Baker, Dr. Frank C., Urbana, Illinois: Four pamphlets. Gift.

Baker, Dr. Fred, Point Loma: Two rare land shells (*Eulota elongata* Pilsbry) from Formosa; one rare specimen of *Pleurotomaria* from Japan; 235 land, freshwater and marine shells from various localities, including paratypes of 10 species from Brazil, and two rare land shells from Java. Gift.

Baldwin, Mrs. William S., San Francisco: One botanical specimen from Paso Robles for identification. Gift.

Barbat, Mr. William, San Francisco: Eight specimens of freshwater shells from Shasta County, and one botanical specimen from Siskiyou County for identification. Gift.

- Barbour, Dr. Thomas, Cambridge, Massachusetts: One salamander from North Carolina; five snakes from Florida; two alligators from China; one lizard from Texas. Exchange.
- Beattie, Mr. R. Kent, Bureau of Plant Industry, Washington, D. C.: One botanical specimen from Oregon. Gift.
- Beckley, Mr. George C., San Francisco: One moose, two caribou, one Stone sheep, one Fannin sheep, one Rocky Mountain sheep, one mule deer, one mountain goat, two antelope and three Montana elk. Gift.
- Berry, Dr. S. S., Redlands: Four specimens of land shells from Shasta County and 17 specimens of fossil chitons from Southern California. Gift.
- Bethel, Mr. Ellsworth, Denver, Colorado: One botanical specimen. Gift.
- Bibble, Mr. A.: Thirty specimens of freshwater shells from Placer County. Gift.
- Blaisdell, Dr. F. E., San Francisco: Seven hundred and thirty-eight insects, mostly spiders from Mount Hermon, Santa Cruz County (includes four types of Cicadidæ); 173 government bulletins, 34 pamphlets and four books. Gift.
- Blakely, Mrs. Velinda, San Francisco: Piece of tanned elephant hide. Gift.
- Blanchard, Mr. Frank N., Ann Arbor, Michigan: Fifty herpetological specimens from Massachusetts, 50 from Maine, 14 from Maryland, 78 from New Hampshire, 19 from New York, 23 from Virginia, 87 from Vermont, 15 from Washington, six from West Virginia. Purchase.
- Blazic, Mr. Antone J., Los Angeles: Two hundred and thirteen specimens of wild and cultivated plants from Florida; 641 specimens of trees, shrubs and wild flowers from the Arnold Arboretum and elsewhere in Massachusetts. Gift.
- Borden, Mr. Ralph, Oakland: Nineteen African birds, in flesh. Gift.
- Bowles, Mr. Charles W., Menlo Park: Sun spot sketches and earthquake notes, made by J. Arthur Bowen, 1638 Oxford Street, Berkeley, with 3" and 6" telescope. Gift.
- Bradshaw, Mr. R. V., Palo Alto: Eighteen botanical specimens of willows from Oregon. Gift.
- Brown, Mr. E. Call, Los Angeles: One specimen of fossil shell from oil well at Signal Hill field. Gift.
- Bruce, Mr. Jay, San Lorenzo: One adult and two mountain lion cubs. Purchase.
- Bulmer, Mrs. Joseph, San Francisco: Twenty-one obsidian Indian arrow and spear heads from vicinity of Calistoga. Gift.
- Burlingame, Mrs. C. A., Sonoma: One botanical specimen from Sonoma County for identification. Gift.
- Cain, Mr. Brighton C., Stanford University: Thirteen snakes, 23 lizards, three frogs, one turtle, four salamanders from California; one snake skin from Texas. Purchase. Twenty-two insects from Utah. Gift.
- California Academy of Sciences Expedition to the Gulf of California, 1921: Two thousand two hundred and eleven land shells from Lower California and islands in the Gulf of California. Exploration.

- California Botanical Club, San Francisco: One hundred and twenty-two photographs of California wild flowers, photographed and colored by Antone J. Soares. Gift.
- California Fish and Game Commission: Six skulls of Pacific Coast cougar, four of which were donated, and the other two, kitten skulls, were purchased. One skin of *Felis oregonensis oregonensis*. Gift.
- California State Mining Bureau, San Francisco: Fifteen specimens of Jurassic fossils from 10 miles east of Folsom. Gift.
- Camp, Dr. Charles, Berkeley: One stump from ranch of René Guillon. Gift.
- Campbell, Mrs. H. C., Sausalito: Four botanical specimens from Porterville. Gift.
- Campbell, Mrs. Marian L., Mill Valley: One botanical specimen from Mount Tamalpais for identification. Gift.
- Campbell, Mrs. R. W., Pasadena: Forty-four botanical specimens from Southern California. Gift.
- Cantwell, Mrs. F. S., Sausalito: Six botanical specimens from Carmel for identification. Gift.
- Christoffersen, Mr. A., San Francisco: Twenty land shells from Alaska; one set of four eggs of *Calcarius lapponicus alascensis*. Gift.
- Chular School, Monterey: Eight botanical specimens from Monterey for identification. Gift.
- Clark, Mr. B. Preston, Boston, Massachusetts: Two hundred and seventy-four insects from Mexico. Gift.
- Clark, Dr. Frank C., Los Angeles: Forty insects from California; six sets of bird eggs from Napa and Santa Clara counties. Gift.
- Clemons, Mrs. Joseph, Pacific Grove: Forty botanical specimens from Southern California for identification. Gift.
- Clifford, Miss Ivy N., Tahoe City: One *Archibuteo ferrugineus*, in flesh, from Tahoe City. Gift.
- Clokey, Mr. Ira W., Denver, Colorado: Two hundred and seventy-six specimens of Colorado wild flowers. Exchange.
- Colton, Mr. Joseph, San Francisco: One hundred and twenty-eight bird eggs. Gift.
- Crocker, Mr. William H. and Fleishbacker, Mr. Herbert, San Francisco: Three thousand one hundred and twenty-five herpetological specimens from Philippine Islands and neighboring territory. (Purchase from Edward H. Taylor). Gift.
- Crocker, Mr. William H. and Mailliard, Mr. John W., San Francisco: One package containing Dr. J. G. Cooper's manuscripts, notes, memoranda, letters, etc., purchased from W. Otto Emerson in connection with his bird collection. Gift.
- David, Mr. J., San Francisco: Three botanical specimens from San Francisco for identification. Gift.
- Dodds, Mr. C. T., Berkeley: Seventeen hundred and five insects from Los Moches, Sinaloa, Mexico. Gift.
- Dominion Museum, Wellington, New Zealand: One frog from New Zealand. Exchange.

- Donohoe, Mrs. Joseph, Menlo Park: Five botanical specimens from Menlo Park. Gift.
- Duncan, Mr. Carl D., Stanford University: Three thousand seven hundred and eighty insects from Texas. Purchase.
- Dutton, Mrs. C. S., San Francisco: One California plant. Gift.
- Eastwood, Miss Alice, California Academy of Sciences: Three hundred and seventy-seven specimens of California plants. Exploration.
Two books and 176 pamphlets. Gift.
- Edwards, Mr. George W., San Francisco: Two tusks from South America. Gift.
- Engel, Mrs. F. G., San Francisco: One botanical specimen from Rubicon Springs. Gift.
- Erwin, Mr. Richard P., Boise, Idaho: Five snakes from Idaho. Gift.
- Essig, Prof. E. O., Berkeley: Eighteen insects from Santa Clara County. Gift.
- Evermann, Dr. Barton Warren, California Academy of Sciences: Seventeen books and 235 pamphlets; one botanical specimen from Texas and four specimens of plants from Unalaska; three sets of bird eggs; 39 marine shells and a collection of bones from Farallon Islands; two specimens of *Peromyscus maniculatus dubius* from Coronado Islands; three barnacles from a Hump-back whale. Gift.
Thirty specimens of land shells, 10 lizards and six salamanders from Coronado Islands, Lower California. Exploration.
- Farallon Islands Lighthouse Keeper: Collection of seal bones from the Farallon Islands. Gift.
- Ferris, Mrs. R. S., Stanford University: One thousand one hundred and fifty-three numbers of Texas plants and 15 photographs of trees and shrubs. Purchase.
- Fitzhugh, Mr. William M., San Francisco: Three volumes (The Outline of Science). Gift.
- Fleishhacker, Mr. Herbert and Crocker, Mr. William H., San Francisco: Three thousand one hundred and twenty-five herpetological specimens from Philippine Islands and neighboring territory. (Purchase from Edward H. Taylor). Gift.
- Fleming, Mr. G. L., La Jolla: Twenty botanical specimens from Southern California. Gift.
- Foster, Mr. Ben, San Rafael: One *Lophodytes cucullatus*, in flesh, from Marin County. Gift.
- Foster, Mrs. George, San Francisco: Mounted ferns and algae. Gift.
- Fox, Mr. C. L., San Francisco: One snake from Marin County, one snake from Modoc County; 1355 insects, mostly from Modoc County. Gift.
- Gallegos, Prof. José M., San Diego: Twelve photographs of plants from Cedros and Guadalupe islands. Gift.
- Garrecht, Miss Ruth, Redding: Three botanical specimens from Redding for identification. Gift.
- Ghirardelli, Mrs. Domingo, San Francisco: Fifty-five botanical specimens from Glacier National Park and one cultivated plant from San Francisco. Gift.
- Gilman, Dr. P. K., San Francisco: Four books. Gift.

- Goding, Dr. F. W., American Consulate, Guayaquil, Ecuador: Twelve insects from Ecuador. Gift.
- Goodman, Dr. E., San Francisco: Ten botanical specimens from Marin County for identification. Gift.
- Goodwin, Mr. Clay: One botanical specimen from Arizona. Gift.
- Gorius, Mr. Jacob, San Francisco: One ostrich egg from Panama-Pacific International Exposition. Gift.
- Graff, Mr. A. J., Cazadero: One botanical specimen from Cazadero for identification. Gift.
- Griffin, Miss Alice, El Verano: Twelve botanical specimens from El Verano for identification. Gift.
- Gulf of California, 1921, California Academy of Sciences Expedition to: Two thousand two hundred and eleven land shells from Lower California and islands in the Gulf of California. Exploration.
- Hanna, Dr. G. Dallas, California Academy of Sciences: Seventy insects from Santa Cruz County; 40 land shells from Pescadero. Gift.
Forty-three specimens of land and freshwater shells from Southern California; 40 fossil shells and 534 land and freshwater shells from Lake County; one turtle from Lake County and one lizard from Kern County. Exploration.
- Hanna, Mr. Marcus A., Seattle, Washington: One set of Nighthawk eggs, 12 land shells and one snake from San Diego County. Gift.
- Hansen, Mr. John, St. Paul Island, Alaska: One specimen of *Iridoprocne bicolor* from St. Paul Island, Alaska. Gift.
- Hart, Mr. Cecil, Los Angeles: One hundred and eighteen botanical specimens from Southern California for identification. Gift.
- Head, Miss Anna, Berkeley: Three hundred and eighty-two specimens of plants from the Feather River region and one botanical specimen for identification. Gift.
- Heath, Dr. Harold, Stanford University: One hundred and twenty land shells from Monterey County. Gift.
- Herrin, Mr. W. F., San Francisco: Six botanical specimens from Shasta Springs for identification. Gift.
- Holman, Mr. F. C., San Francisco: One Fox Sparrow. Gift.
- Howe, Mr. Henry V., Stanford University: One cotype of a new species of fossil shell and seven casts of new species of fossil shells from Oregon. Gift.
- Huffins, Mrs. L. H., Petaluma: One botanical specimen from Petaluma. Gift.
- Hunt, Mrs. D. O., St. Helena: One botanical specimen from St. Helena for identification. Gift.
- Jeffers, Mr. Le Roy, New York City: Three books. Gift.
- Johnston, Mr. Don P., Okeechobee, Florida: One turtle from Florida. Gift.
- Johnston, Mr. E. C., Bureau of Fisheries, Washington, D. C.: Sixty-eight bird eggs. Purchase.
- Johnston-Lavis, Madame Fournier, Paris, France: One book. Gift.
- Jones, Miss Katherine, Berkeley: One botanical specimen from Modesto. Gift.
- Kellogg, Mrs. Harriet S., Berkeley: Thirty-six sheets of marine algæ chiefly from the coast of California. Gift.

- Kelly, Mrs. G. Earle, Alameda: Seventy-five specimens of plants from Porterville and 49 botanical specimens from Sequoia National Park for identification. Gift.
- Kelsey, Mr. F. W., San Diego (through Dr. Fred Baker): Two paratypes of *Amphithalamus tenuis* Bartsch from La Jolla and 42 land and freshwater shells from western North America. Gift.
- Kinsey, Mr. A. C., Bloomington, Indiana: Three hundred and thirty-two Cynipidæ and their galls. Gift.
- Klauber, Mr. L. M., San Diego: One snake from San Diego County. Gift.
- Kleeberger, Mr. George R., Berkeley: Two thousand two hundred and fifty-six mounted plants. Gift.
- Kusche, Mr. J. August, Los Angeles: Nineteen specimens of Hawaiian lichens, named by C. C. Plitt and Dr. Zahlbruckner and 20 specimens of desert plants. Gift.
One hundred and fifty-two bird skins and seven mammal skins from Australia and Solomon Islands; 63 bird skins and 50 mammal skins from Needles and 700 insects from Needles. Purchase.
- Leach, Mr. E. R., Piedmont: One hundred and twenty-two moths from Michigan Bluff; one *Dipodomys heermanni californicus*, in flesh, from Mendocino County, and one *Sciuropterus alpinus lascivus* from Placer County. Gift.
- Leonard, Mrs. J. A., San Francisco: One Japanese crane, mounted. Gift.
- Leong, Mr. C. H., Watsonville: Forty-three skins of Chinese birds. Gift.
- Lewis, Mr. William C., Sausalito: One Coast Bush Tit nest. Gift.
- Maag, Mr. Fred, San Francisco: One snake from San Francisco. Gift.
- Mailliard, Mr. J. W., San Francisco: Two books, one pamphlet and one map. Gift.
- Mailliard, Mr. John W. and Crocker, Mr. William H., San Francisco: One package containing Dr. J. G. Cooper's manuscripts, notes, memoranda, letters, etc., purchased from W. Otto Emerson in connection with his bird collection. Gift.
- Mailliard, Mr. J. W., Jr., San Francisco: One *Bassariscus astutus raptor*, male, from Mendocino County. Gift.
- Mailliard, Mr. Joseph, California Academy of Sciences: One Remington typewriter No. 10, one typewriter desk and one desk chair; one botanical specimen from San Francisco for identification. Gift.
Twenty-three mammal skins and skulls and 15 bird skins from Plumas County; 11 mammal skins and 91 bird skins from Yuba County; 12 bird skins and 53 mammal skins from Los Angeles County; five sets of bird eggs, 224 bird skins and one nest and eggs, 64 mammal skins and 58 skulls of mammals from Siskiyou County; 23 marine shells from Eureka, Humboldt County. Exploration.
- Marshall, Mr. B. C., Imboden, Arkansas: One hundred and fifty insects from Arkansas. Gift.
- Martin, Mr. H. T., Lawrence, Kansas: Six casts of types of fossil land shells from Oregon; one fossil land shell from Oregon; and one fossil crinoid from Kansas. Gift.

- Martin, Mr. J. O., Berkeley: Three books and 10 pamphlets; 754 insects, largely from Lassen County. Gift.
- Mason, Mr. Frank E., Germantown, Philadelphia, Pennsylvania: One hundred and forty-five insects from Africa. Gift.
- McAllister, Mr. M. Hall, San Francisco: One picture of old Academy on Market Street. Gift.
- Matthew, Rev. W. S., San Mateo: One skin of *Ursus horribilis californicus* from Placer County. Gift.
- McLaren, Mr. John, Golden Gate Park, San Francisco: Two *Accipiter cooperi* in flesh, one *Buteo borealis calurus* in flesh, one *Ceryle alcyon caurina* and one *Colymbus auritus* in flesh, one kingfisher in flesh, one *Cervus axis*, two weasels in flesh, one elk and two kangaroos, from Golden Gate Park; 78 specimens of Hawaiian ferns. Gift.
- McLellan, Miss M. E., San Francisco: Fifteen bird skins from British Columbia. Exploration.
- McMurray, Mr. William, Portland, Oregon: Three fossil shells from northern Oregon. Gift.
- McQuarrie, Mrs. J. G., San Francisco: One botanical specimen from Yuma, Arizona. Gift.
- Meiere, Mrs. Ernest, Los Altos: Three botanical specimens from Los Altos for identification. Gift.
- Meinecke, Dr. E. P., San Francisco: One botanical specimen from Lake County. Gift.
- Merriam, Dr. C. Hart, Lagunitas: One botanical specimen from Humboldt County. Gift.
- Mexican Islands Expedition: One thousand one hundred and thirty-eight insects; 61 mammal skins and skulls and nine specimens in alcohol; 126 bird skins, one set of primaries, five specimens in alcohol and three eggs of *Halocyptena microsoma*. Exploration.
- Michaels, Mrs. Enid, Yosemite: Sixty-three botanical specimens from Yosemite National Park. Gift.
- Miller, Mr. S., San Francisco: One sea urchin from four miles south of Cliff House. Gift.
- Mitchell, Mrs. H. M., San Francisco: Fourteen botanical specimens from the Lake Tahoe region. Gift.
- Monroe, Dr. Will S., New York: (through Mrs. Enid Michaels). Fifteen botanical specimens from the Yosemite National Park. Gift.
- Morris, Mr. W. L., Woodland: Two gophers in flesh (one albino, one melanistic). Gift.
- Museo Nacional, Mexico City: One lizard from Mexico. Exchange.
- Newell, Mrs. Gwendolyn, San Francisco: Two specimens of plants from Monterey County. Gift.
- New York Botanical Garden, New York: Three hundred and forty-six specimens of North American plants. Exchange.
- Ober, Mr. E. H., Big Pine: Five Desert Mountain Sheep, skins, leg bones, and skulls. Gift.
- O'Brien, Mr. Paul, San Francisco: One mole in flesh from San Francisco and one set of eggs and nest of *Zonotrichia leucophrys nuttalli*. Gift.

- Orpet, Mr. E. O., Santa Barbara: Four botanical specimens from Santa Barbara for identification. Gift.
- Otis, Mr. Ira C., Seattle, Washington: Fifty-five specimens of plants from Washington. Gift.
- Owen, Mr. Virgil, Los Angeles: Eighty-five insects from Arizona, including many rare moths. Gift.
- Packard, Dr. Earl L., Eugene, Oregon: Six casts of fossil land shells from Oregon. Gift.
- Peers, Miss Susie, San Francisco: SCIENCE for 1922 and 44 preceding numbers of SCIENCE and one fox squirrel. Gift.
- Peterson, Mr. L. A., Colfax: One lizard from Colfax. Gift.
- Phillips, Mr. W. M., Park Game Warden, Golden Gate Park: Two Cooper's Hawks, one *Buteo borealis calurus* in flesh, one *Ceryle alcyon caurina* and one *Colymbus auritus* in flesh, one kingfisher and two weasels in flesh. Gift.
- Phipps, Mrs. E. C., San Francisco: Eleven botanical specimens from Marin County for identification. Gift.
- Pope, Lt.-Col. Benj. H., San Francisco: One mounted head of *Ovis ammon*. Loan.
- Pope, Dr. Saxton, San Francisco: One bow and two arrows used by Dr. Pope and Mr. Arthur Young in hunting bears. Gift.
- Putnam, Mr. P. G., Lake Cushman, Washington: Six frogs, 45 toads, eight snakes and one salamander from Washington. Purchase.
- Ray, Mr. Milton S., San Francisco: One set of eggs of Farallon Rail. Exchange.
- Reed, Mr. C. A., Santa Cruz: Five botanical specimens from Santa Cruz for identification. Gift.
- Reed, Mrs. P. B., San Francisco: Five botanical specimens from San Francisco for identification. Gift.
- Rey, Mr. V. J., Belvedere: One Cedar Waxwing. Gift.
- Richards, Miss Esther, Houston, Texas: One hundred and forty-six lots (about 1000 specimens), of marine fossils from states bordering on Gulf of Mexico. Exchange.
- Richardson, Miss Belle, San Rafael: Four plants from Point Reyes for identification. Gift.
- Rixford, Dr. Emmet, San Francisco: One *Neosorex navigator navigator* from Kern County. Gift.
- Rixford, Mr. G. P., San Francisco: One botanical specimen from San Francisco. Gift.
- Rohrback, Mr. D. L., San Benito: One fossil ammonite from San Benito County. Gift.
- Romaine, Mr. F. M., San Francisco: One botanical specimen. Gift.
- Rose, Mr. Alex, San Francisco: Three botanical specimens from Marin County. Gift.
- Rosenblatt, Mr., San Francisco: Two mounted pheasants, two buffalo horns, five claws, one elk tooth, one seal tooth, 21 teeth of fossil shark, one copper matte vase, one copper spoon, two military buttons, piece of Pacific cable, four rattlesnake rattles, one sheath knife, one turquoise set brooch,

- one invitation to Executive ball, Honolulu, and one polished wood cup. Gift.
- Roule, Prof. Louis, Paris, France: One hundred and seven specimens of reptiles and amphibians from Europe, Africa, and East Indies. Exchange.
- Ruddock, Mr. George T., San Francisco: Two specimens of desert plants. Gift.
- Sargeant, Mr. W. W., Jr., Sausalito: One snake from Marin County. Gift.
- Sargent, Miss Alice D., San Francisco: Seven botanical specimens from Russian River for identification. Gift.
- Scripps Institution for Biological Research, La Jolla: Thirteen specimens of echinoderms from southern California. Gift.
- Seale, Mr. Alvin, San Francisco: One *Otus asio bendirei* and one botanical specimen from Santa Cruz County. Gift.
- Slevin, Mr. Joseph R., California Academy of Sciences: Two snakes, three lizards and one turtle from San Benito County. Exploration.
- Slevin, Mr. Louis S., Carmel: Five hundred and fifty insects from Monterey County and one botanical specimen. Gift.
- Small, Mr. E. C., Berkeley: Three specimens of native graphite from metamorphic coal, Metape Valley, Sonora, Mexico. Gift.
- Smith, Mr. A. M., San Francisco: One walrus head. Gift.
- Soares, Mr. Antone J., Haywards: Twenty-two botanical specimens from Shasta County. Gift.
- Stacey, Mr. J. W., San Francisco: Eight specimens of California plants for identification, 13 botanical specimens from Nevada County, and three books. Gift.
- Stanford University: One specimen of rock containing fossil ear bones of fishes, and fourteen casts of type specimens of fossils. Gift.
- Stephens, Mr. A. D., San Francisco: One glass case containing exhibition of mollusks from Mexico made into flower designs. Gift.
- Stephens, Mr. Frank, San Diego: Thirty-four mammal skins, 33 skulls and 22 skins and skulls of mammals from Southern California. Purchase.
- Stephens, Mrs. Kate, San Diego: Three marine shells from Alaska, and two casts of rare marine shells. Exchange.
- Sternenberg, Miss Frances, Austin, Texas: Three fossils shells from the Cretaceous of Texas. Gift.
- Stewart, Miss Elizabeth Craig, Unalaska: Five botanical specimens from Unalaska. Gift.
- Sturtevant, Mr. George and Sturtevant, Mr. Roger, Alameda: Seven specimens of marine shells, 310 shells and five corals, 369 books; one pair ox horns, mounted; one carved paddle; one set of chess, carved; one bronze eagle; one box of carvings made by J. N. Webster coming around the Horn; three steer horns; four cones; one bunch wood carvings; one bunch carvings chain; one piece from the ship CADMUS; one bugle presented to the children at dedication of the Playground, Golden Gate Park in 1888; one ivory carving; two sperm whale teeth; two fish hooks, shell; two small horns; one bone carving; one carved canoe; five maps; one wall case; seven packages old newspapers 1849; papers relating to Francis Scott Key dedication, July 4, 1888; two copies Union Ticket,

- electors 1864, Lincoln and Johnson; one chain (cotton) made by Miss Cena Amada Washburn, later wife of J. N. Webster, 1834; one string of wampum; five canes gathered in different parts of California by J. N. Webster in the 50's; two Chinese pipes and one tobacco bag; one flute, 1849; two arrows from the Dakotas, early 70's; one Indian pipe captured from the Sioux Indians by Edgar Webster in early 70's; one shark's teeth club; one bayonet and cartridge box worn by Morris Case Webster, son of J. N. W. during the Rebellion. Gift.
- Sutherland, Mr. R. S., Puysegur Point Lighthouse, Invercargill, New Zealand: Eleven bird skins, three *Pterodroma inexpectata*, two *Pterodroma cooki*, four *Pachyptila vittata*, two *Garrodia nereis*. Gift.
- Sutcliffe, Mrs. E. C., San Francisco: Twenty-three botanical specimens from Marin County, and one lizard from Alameda County. Gift.
- Tanner, Prof. V. M., St. George, Utah: One lizard, two salamanders, one snake, one frog, and one toad from Utah; two salamanders and one toad from Arizona. Gift.
- Tebby, Mr. Will S., Weed: One block of diatomaceous earth from Pit River and two mineral specimens from Pit River diatomaceous deposits. Gift.
- Thompson, Mr. B. G., Sacramento: Twenty-seven insects from Sacramento and vicinity. Gift.
- Tose, Mr. Frank, California Academy of Sciences: One yellow-bellied Sapsucker, one Carolina Rail and one red squirrel; and one snake from San Mateo County. Gift.
Fifteen birds from San Mateo County; one *Thomomys bottæ bottæ* in flesh, one pocket gopher skin, one squirrel skin from Golden Gate Park. Exploration.
- Trosper, Mrs. T. B., Cazadero: One botanical specimen. Gift.
- University of Colorado, Boulder, Colorado: Six specimens of freshwater shells from Idaho. Gift.
- University of Michigan, Ann Arbor, Michigan: One snake from Illinois, one snake from Florida, two frogs from Republic of Colombia, and two snakes from Texas. Exchange.
- Van Denburgh, Dr. John, California Academy of Sciences: Five salamanders from Santa Clara County; four salamanders, two lizards, one snake from San Mateo County; one nest of California Woodpecker, one rough-winged swallow and one bank swallow, in flesh. Gift.
- Van Duzee, Mr. E. P., California Academy of Sciences: One snake from Marin County. Gift.
Six thousand insects taken on Utah trip, 976 insects taken on Sacramento trip, 1265 taken on Lake County trip, 171 taken on Giant Forest trip and 461 taken on miscellaneous trips. Exploration.
- Van Duzee, Mr. Millard C., Buffalo, New York: Fifty insects from Western New York. Gift.
- Van Dyke, Dr. E. C., Berkeley: Three thousand and thirty-six insects, mostly from Eastern Oregon. Gift.
- von Heurn, Mr. W. C., Department of Agriculture, Buitenzorg, Java: Two hundred and seventy-four insects from Java. Gift.

- Walter, Mr. Frank, San Diego: Two botanical specimens from San Diego for identification. Gift.
- Walther, Mr. Eric, San Francisco: Three hundred and seventy-eight specimens of cultivated plants from San Francisco. Gift.
- Wayson, Dr. U. E., San Francisco: Thirteen freshwater shells from Oregon. Gift.
- Weinberger, Mrs. H. M., St. Helena: Two botanical specimens from St. Helena for identification. Gift.
- Werner, Mr. F., Vienna, Austria: Four herpetological specimens from Marshall Islands, five from Egypt, two from Australia, 18 from Africa, two from Corsica, one from India, six from Asia Minor, seven from Austria, one from Sumatra, one from Sardinia, one from Portugal, two from Ceylon, one from Madagascar, one from Switzerland. Purchase.
- West, Mr. T. C., Yreka: Seventeen specimens of freshwater shells from Eagle Lake, California, one species new. Gift.
- Westerfeld, Dr. Otto, San Francisco: One albino *Mareca americana* in flesh, from Solano County. Gift.
- Wilkens, Mrs. Johanna E., San Francisco: One toad, one mole and one set of eggs of *Zonotrichia leucophrys nuttalli* from San Francisco. Gift.
- Wisconsin Academy of Sciences, Arts, and Letters, Madison: One medallion. Gift.
- Worden, Mr. Clinton E., San Francisco: One book (Elisha Brooks, The Life-Story of a California Pioneer). Gift.
- Wright, Mr. A. H., Ithaca, New York: Three salamanders from New York. Exchange.
- Wright, Miss Elizabeth, Calistoga: Fourteen botanical specimens from St. Helena and Calistoga for identification. Gift.

FINANCIAL STATEMENTS

REPORT OF THE TREASURER

for the fiscal year ending March 31, 1923

April 1, 1923, Balance due Crocker National Bank

\$2,593.95

Receipts

Dues	\$ 3,563.50	
Charles Crocker Scientific Fund Endowment In- come	1,326.41	
James Lick Endowment Income.....	53,381.54	
General Income	17,961.62	
John W. Hendrie Endowment Income.....	900.00	
U. S. Treasury Certificates	11,995.96	
Interest	656.55	
Bills Receivable Ignatz Steinhart Trust	115,000.00	
U. S. Treasury Certificates, Steinhart Trust.....	19,000.00	
Ignatz Steinhart Trust Interest.....	11,530.05	
Museum	175.70	
Publication	304.68	
Library	19.46	
W. G. Wright Fund.....	70.20	
C. O. G. Miller Donation	100.00	
Selah Chamberlin Donation	100.00	
Louis F. Montegale Donation.....	50.00	
Herbert Fleishhacker Donation.....	500.00	
George Uhl Donation.....	20.00	
William H. Crocker Donation.....	4,573.53	
William F. Herrin Donation.....	173.00	
Guadalupe Island Expedition Donation.....	500.00	
Ducks of the World Donation.....	40.00	
Sundry Donations	6.00	
Mary E. Hart Bequest	100.00	
Antelope Fund Donation	325.00	
Yosemite Game Paddocks Donation.....	1.48	
Post Card Sales	1,278.93	
		<hr/>
		\$243,653.61
		<hr/>
		\$241,059.66

REPORT OF THE TREASURER—Continued

Expenditures

Expense	\$ 2,219.95
Salary Expense (General).....	17,733.20
Bills Payable	10,000.00
Insurance	1,116.94
Interest	16,303.33
Museum, Department Appropriations.....	8,238.90
" (Edward H. Taylor collection).....	5,000.00
" Department Salaries	13,200.00
Library	1,225.56
Publication	7,328.40
Office Furniture	242.06
U. S. Treasury Certificates.....	7,000.00
Steinhart Aquarium Construction	147,424.82
" " Equipment	3,484.14
Guadalupe Island Expedition.....	383.61
Antelope Fund	300.67
Gulf of California Expedition.....	.50
Yosemite Game Paddocks	16.25
Grizzly Bear Group	2.25
Sundry Creditors	1,675.95
Contingent Fund	413.03
	<hr/>
	\$243,309.56

March 31, 1923, Balance due Crocker National Bank \$ 2,249.90

M. HALL McALLISTER, *Treasurer*.

Examined and found correct,

McLAREN, GOODE & Co., *Certified Public Accountants*.

San Francisco, Calif., April 16, 1923.

INCOME AND OPERATING EXPENSES

For the Period April 1, 1922, to March 31, 1923

Income:

Charles Crocker Scientific Fund Endowment	
Income	\$ 1,326.41
James Lick Endowment Income.....	53,381.54
General Income	17,961.62
Dues	3,563.50
Interest from temporary investments.....	589.39
	<hr/>
	\$76,822.46

Expenditures:

General Expense	\$ 2,396.97
Salaries	31,124.05
Interest	16,303.33
Insurance	1,116.94
	<hr/>
	\$ 50,941.29

Net Income transferred to Surplus Account..... \$ 25,881.17

SUMMARY OF SURPLUS ACCOUNT

March 31, 1923

Balance March 31, 1922..... \$359,268.34

Additions:

Net Income for fiscal year.....\$ 25,881.17

Donations:

Yosemite Game Paddocks.....	1.48
Sundry Donations	6.00
William F. Herrin.....	173.00
Guadalupe Island Expedition	500.00
Antelope Fund	325.00
George Uhl	20.00
C. O. G. Miller.....	100.00
Selah Chamberlin	100.00
Louis F. Monteagle.....	50.00
Mary E. Hart Bequest	100.00
Post Card Sales.....	496.38
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	\$ 27,753.03
	<hr/>
	\$387,021.37

Deductions:

Office Furniture (Depreciation).....	\$ 52.08
Depreciation	14,959.81
Antelope Fund	124.12
Yosemite Game Paddocks	202.36
	<hr/>
	\$ 15,338.37

Surplus March 31, 1923..... \$371,683.00

IGNATZ STEINHART TRUST

March 31, 1923

Bequest from the Ignatz Steinhart Estate.....	\$250,000.00
Interest on temporary investments.....	52,149.41
	<hr/>
	\$302,149.41

Investments:

Steinhart Aquarium Construction	\$163,517.68
Steinhart Aquarium Equipment.....	3,583.03
Temporary Investments:	
Bills Receivable	135,000.00
Balance receipts over investments.....	48.70
	<hr/>
	\$302,149.41

BALANCE SHEET

March 31, 1923

Assets

Real Estate:

Market Street Lot.....	\$600,000.00	
Jessie Street Lot.....	8,083.65	
Commercial Building	516,818.66	
		<hr/> \$1,124,902.31

Stocks:

60 shares Savings Union Branch of the Mer-		
cantile Trust Co.....		13,600.00

Ignatz Steinhart Trust:

Bills Receivable	\$135,000.00	
Steinhart Aquarium Construction.....	163,517.68	
Steinhart Aquarium Equipment.....	3,583.03	
Receipts in excess of investments.....	48.70	
		<hr/> 302,149.41

U. S. Treasury Certificates	10,000.00
Museum Construction	192,025.92

Museum:

General Collections	131,413.41	
Tools and Equipment.....	26,816.57	
		<hr/> 158,229.98

Library:

Books and Equipment.....	24,016.64	
Publication	42,718.14	
		<hr/> 66,734.78

Office Furniture	3,673.24
Foreign Exchange	36.84
Post Cards in Stock	1,687.57

\$1,873,040.05

BALANCE SHEET—Continued

Liabilities

Endowments:

James Lick Endowment.....	\$804,902.31	
Charles Crocker Scientific Fund Endowment.....	20,000.00	
John W. Hendrie Endowment.....	13,600.00	
	<hr/>	\$838,502.31
Ignatz Steinhart Trust	250,000.00	
Ignatz Steinhart Trust Interest Account.....	52,149.41	
	<hr/>	302,149.41
Alvord Bequest Botanical.....		5,000.00
John W. Hendrie Income Account.....		1,800.00
W. G. Wright Fund		70.20
A. K. Macomber Donation.....		3,500.00
William C. Van Antwerp Donation.....		5,120.00
William H. Crocker Donation.....		8,342.26
W. B. Bourn Donation		2,659.31
J. D. Grant Donation		2,710.42
Herbert Fleishhacker Donation.....		4,000.00
Ogden Mills Donation.....		5,000.00
John W. Mailliard Donation.....		1,250.00
Bills Payable		270,000.00
Antelope Fund		8.76
Herpetological Fund		370.00
Ducks of the World Fund.....		40.00
Sundry Creditors		3,838.34
Cash:		
Amount due Ignatz Steinhart Trust.....	48.70	
Overdraft with Crocker National Bank.....	2,249.90	
	<hr/>	2,298.60
Less Cash in Safe.....	71.06	2,227.54
Reserve for Depreciation		44,768.50
Surplus		371,683.00
		<hr/>

\$1,873,040.05

W. W. SARGEANT,
Secretary, Board of Trustees.

We have examined the foregoing Balance Sheet, together with the books and accounts of the CALIFORNIA ACADEMY OF SCIENCES, and, in our opinion, it is properly drawn up so as to exhibit a true and correct view of the Academy's affairs, as shown by the books.

MCLAREN, GOODE & Co.,
Certified Public Accountants.

San Francisco, Calif.
April 16, 1923.